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This listing of claims will replace all prior versions, and listing, of claims in the application:

1. (Currently Amended) The data broadcast system of claim 44, for use with a broadcast system operable to carry digital packets to multiple recipients simultaneously, wherein the content liaison unit includes comprising:

a content provider (CP) interface to receive, from the at least one content provider unit, a specification of the digital content that is to be inserted into said the broadcast system signal and an insertion schedule by which said the digital content is to be inserted into said the broadcast system signal, wherein said digital content pertains to data broadcasting;

a collection unit, responsive to said the CP interface, to collect digital files of said the digital content by at least one of actively retrieving and reactively receiving said the digital files from a source thereof identified in said the specification; and

an insertion unit, responsive to said the CP interface, to transfer said the digital files from said the collection unit to said the broadcast system according to said the insertion schedule.

2. (Currently Amended) The liaison unit data broadcasting system of claim 1, wherein said the collection unit includes memory into which said the collection unit is operable configured to store said the digital files so as to decouple, in time, the collection and the transfer of said the digital files.

3. (Currently Amended) The liaison unit data broadcasting system of claim 1, wherein:

said the content provider unit is a first content provider unit, said the specification is a first specification and said the insertion schedule is a first insertion schedule;

said the CP interface also is operable configured to receive, from a second content provider unit, a second specification of second digital content that is to be inserted into said the broadcast system signal and a second insertion schedule by which said the second digital content is to be inserted into said the broadcast system signal;

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saidthe collection unit also is operable-configured to collect saidthe second digital content by at least one of actively retrieving and reactively receiving saidthe second digital content from a source thereof identified in saidthe second specification;

saidthe insertion unit also being operable-configured to transfer saidthe second digital content from saidthe collection unit to saida mixing unit according to saidthe second insertion schedule.

4. (Currently Amended) The liaison unitdata broadcasting system of claim 3, wherein saidthe first specification, saidthe first insertion schedule, saidthe second specification and saidthe second insertion schedule are provided to saidthe CP interface using a common communications protocol.

5. (Currently Amended) The liaison unitdata broadcasting system of claim 1, wherein saidthe specification includes at least one of the following:

a characterization of the type of saidthe digital content;

a resource locator to define a location where saidthe digital content can be obtained by saidthe content liaison unit;

a transfer schedule by which saidthe content liaison unit is to obtain saidthe digital content;

an indication of whether saidthe content liaison unit will actively retrieve or responsively receive saidthe digital content from a source of saidthe digital content;

an indication of whether saidthe digital content is to be compressed by saidthe corresponding content provider unit or by the saidcontent liaison unit;

an indication of whether saidthe digital content is to be encrypted by saidthe corresponding content provider unit or by saidthe content liaison unit; and

an indication of whether saidthe digital content is to undergo forward error correction transformations by saidthe corresponding content provider unit or by the saidcontent liaison unit.

6. (Currently Amended) The liaison unitdata broadcasting system of claim 5, wherein saidthe transfer schedule includes a first set of at least one time for saidthe digital

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content to be collected and a second set of at least one time for saidthe digital content to be transferred, saidthe second set being different than saidthe first set.

7. (Currently Amended) The liaison-unitdata broadcasting system of claim 1, wherein saidthe content liaison unit is sufficiently robust to interpret a valid insertion schedule whenever saidthe insertion schedule is defined in terms of each of the following scheduling parameters taken alone or in combination:

a start time of a time slot during which an item can be output from saidthe content liaison unit to saidthe broadcast system;

an end time for saidthe time slot;

a duration (D) of saidthe time slot;

a time interval (INT) between successive outputs of saidthe item from saidthe content liaison unit to saidthe broadcast system during saidthe time slot;

a number (N) of times that saidthe item is to be output from saidthe content liaison unit to saidthe broadcast system during a time slot;

a size (S) of saidthe item; and

a bitrate (BTR) at which saidthe item is to be output from thesaid content liaison unit to saidthe broadcast system.

8. (Currently Amended) The liaison-unitdata broadcasting system of claim 7, wherein saidthe insertion schedule is a microschedule;

wherein saidthe CP interface is operable to receive a macroschedule including at least one recurring time slot, each recurring slot having a microschedule, respectively; and

wherein saidthe insertion unit is responsive to saidthe macroschedule.

9. (Currently Amended) The liaison-unitdata broadcasting system of claim 7, wherein, if two or more of saidthe scheduling parameters are contradictory, then the contentsaid liaison unit is operable to apply at least one conflict resolution rule to ignore at least one of the contradictory scheduling parameters in order to interpret saidthe insertion schedule to be valid.

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10. (Currently Amended) The ~~Haison-unitdata broadcasting system~~ of claim 9, wherein ~~said~~the at least one conflict resolution rule includes at least one of the rules from the following Rule Table:

Rule Table

| Parameters Specified | | | | Rule |
|----------------------|-----|---|---|--|
| INT | BTR | D | N | |
| Y | Y | Y | Y | If INT < S/BTR, set INT = S/BTR Ignore N, Output at INT using BTR, for D (timed). |
| Y | Y | Y | N | If INT < S/BTR, set INT = S/BTR Output at INT using BTR, for D (timed), |
| Y | Y | N | Y | If INT < S/BTR, set INT = S/BTR Output at INT using BTR, N times (timed), |
| Y | Y | N | N | If INT < S/BTR, set INT = S/BTR Output at INT using BTR, indefinitely (timed), |
| Y | N | Y | Y | Set BTR = account BTR, If INT < S/BTR, set INT = S/BTR Ignore N, Output at INT using BTR, for D (timed), |
| Y | N | Y | N | Set BTR = account BTR, If INT < S/BTR, set INT = S/BTR Output at INT using BTR, for D (timed), |
| Y | N | N | Y | Set BTR = account BTR, If INT < S/BTR, set INT = S/BTR Output at INT using BTR, N times (timed), |
| Y | N | N | N | Set BTR = account BTR, If INT < S/BTR, set INT = S/BTR Output at INT using BTR, indefinitely (timed), |
| N | Y | Y | Y | Set INT = D/N, If INT < S/BTR, set INT = S/BTR Output at INT using BTR, for D (timed), |
| N | Y | Y | N | Set INT = S/BTR, Output at INT using BTR, for D (timed), |
| N | Y | N | Y | Set INT = S/BTR, Output at INT using BTR, N times (timed), |
| N | Y | N | N | Set INT = S/BTR, Output at INT using BTR, indefinitely (timed), |

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| Parameters Specified | | | | Rule |
|----------------------|-----|---|---|---|
| INT | BTR | D | N | |
| N | N | Y | Y | Set BTR = account BTR, Set INT = D/N, If INT < S/BTR, set INT = S/BTR Output at INT using BTR, for D, |
| N | N | Y | N | Output for D (non-timed), |
| N | N | N | Y | Output N times (non-timed), |
| N | N | N | N | Output indefinitely (non-timed). |

11. (Currently Amended) The liaison unit data broadcasting system of claim 1, wherein saidthe CP interface receives saidthe specification and saidthe insertion schedule represented as at least one XML document from the correspondingsaid content provider unit.

12. (Currently Amended) The liaison unit data broadcasting of claim 1, wherein saidthe specification includes an account, each account including at least one catalog, each catalog including at least one independent item to be output by saidthe content liaison unit to saidthe broadcast system or at least one group of related items to be output by saidthe content liaison unit to saidthe broadcast system, each group including a group of related items or an independent item.

13. (Cancelled)

14. (Currently Amended) The liaison unit data broadcasting system of claim 1, wherein:

saidthe specification and insertion schedule are associated with an account; and
saidthe insertion unit is operable to limit an insertion-schedule-dictated transference of saidthe digital content so as to comply with a bandwidth allocation for saidthe account.

15. (Currently Amended) The liaison unit data broadcasting system of claim 14,

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wherein saidthe insertion unit limits saidthe transference by processing saidthe insertion schedule as a plurality of incremental time slices, saidthe bandwidth allocation representing a maximum data amount of data that can be transferred in each time slice, respectively; and

wherein, if transference of saidthe maximum amount of data takes place before the end of a time slice, then saidthe insertion unit is operable to suspend the transference until a next time slice begins.

16. (Currently Amended) ~~For use with a~~The data broadcast system of claim 44, system operable to carry digital packets to multiple recipients simultaneously, a wherein each of the at least one content provider unit includes comprising:

an insertion schedule generator to generate a specification of the digital content to be inserted into saidthe broadcast signalsystem and an insertion schedule by which saidthe digital content is to be inserted, wherein said digital content pertains to data broadcasting; and

an interface to a liaison unit to provide, in a machine-readable form, saidthe specification of saidthe digital content that is to be inserted into saidthe broadcast signalsystem and saidthe insertion schedule by which saidthe digital content is to be inserted into saidthe broadcast signalsystem.

17. (Currently Amended) The data broadcasting system content provider unit of claim 16, further comprising a source of saidthe digital content.

18. (Currently Amended) The data broadcasting system content provider unit of claim 16, wherein

saidthe broadcast system is a first broadcast system, saidthe machine-readable form is a first machine-readable form, saidthe specification is a first specification, and saidthe insertion schedule is a first insertion schedule; and

saidthe corresponding content provider unit is operable configured to provide to a second broadcast system, in a second machine-readable form, a second specification of second digital content that is to be inserted into saidthe broadcast signalsystem and a second insertion schedule by which saidthe second digital content is to be inserted into saidthe broadcast system signal.

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19. (Currently Amended) The data broadcasting systemcontent provider unit of claim 18, wherein each of saidthe first machine-readable form and saidthe second machine-readable form is compliant with a common protocol.

20. (Currently Amended) The content providerdata broadcasting system of claim 16, wherein saidthe specification includes at least one of the following:

- a characterization of the type of saidthe digital content;
- a resource locator to define a location where saidthe digital content can be obtained by a broadcaster unit;
- a transfer schedule by which saidthe broadcaster unit is to obtain saidthe digital content;
- an indication of whether saidthe broadcaster unit will actively retrieve or responsively receive saidthe digital content from a source of saidthe digital content;
- an indication of whether saidthe digital content is to be compressed by a content provider or by saidthe liaison unit;
- an indication of whether saidthe digital content is to be encrypted by saidthe corresponding content provider unit or by saidthe content liaison unit; and
- an indication of whether saidthe digital content is to undergo forward error correction transformations by saidthe corresponding content provider unit or by saidthe content liaison unit.

21. (Cancelled)

22. (Currently Amended) The content providerunitdata broadcasting system of claim 16, wherein saidthe machine-readable form is a first machine-readable form, and saidthe specification is a first specification and saidthe insertion schedule is a first insertion schedule, saidthe first specification and saidthe first insertion schedule corresponding to a first account maintained by saidthe corresponding digital content provider unit, saidthe first account being bounded by a first bandwidth allocation; and
saidthe corresponding content provider unit is operable configured to provide, to saidthe broadcast system in a second machine-readable form, a second specification of second digital

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content that is to be inserted into saidthe broadcast system signal and a second insertion schedule by which saidthe second digital content is to be inserted into saidthe broadcast system signal, saidthe second specification and saidthe second insertion schedule corresponding to a second account maintained by saidthe corresponding content provider unit, saidthe second account being bounded by a second bandwidth allocation different than saidthe first bandwidth allocation.

23. (Currently Amended) The content provider unit data broadcasting system of claim 16, wherein saidthe insertion schedule generator is sufficiently robust to generate a valid insertion schedule in terms of each of the following scheduling parameters taken alone or in combination:

a start time of a time slot during which an item can be output from saidthe content liaison unit to saidthe broadcast system;

an end time for saidthe time slot;

a duration of saidthe time slot;

a time interval between successive outputs of saidthe item from saidthe content liaison unit to saidthe broadcast system during saidthe time slot;

a number of times that saidthe item is to be output from saidthe content liaison unit to saidthe broadcast system during a time slot;

a size of saidthe item; and

a bitrate at which saidthe item is to be output from saidthe content liaison unit to saidthe broadcast system.

24. (Currently Amended) The content provider unit data broadcasting system of claim 23, wherein saidthe insertion schedule is a microschedule, and

wherein saidthe insertion schedule generator is operable-configured to provide a macroschedule including at least one recurring time slot, each recurring slot having a microschedule, respectively.

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25. (Currently Amended) The ~~content provider unit~~data broadcasting system of claim 16, wherein ~~said~~the machine readable form includes representation of ~~said~~the specification and ~~said~~the insertion schedule as at least one XML document.

26. (Currently Amended) The ~~content provider unit~~data broadcasting system of claim 16, wherein ~~said~~the specification includes an account, each account including at least one catalog, each catalog including at least one independent item to be output by ~~said~~the content liaison unit to ~~said~~the broadcast system or at least one group of related items to be output by ~~said~~the content liaison unit to ~~said~~the broadcast system, each group including a group of related items or an independent item.

27 – 34. (Cancelled)

35. (Previously Presented) A method as embodied in elements which form the content liaison unit of claim 1.

36. (Previously Presented) A computer-readable medium having embodied thereon at least one program to cause at least one processor to implement the content liaison unit of claim 1.

37. (Previously Presented) A method as embodied in elements which form the content provider unit of claim 16.

38. (Previously Presented) A computer-readable medium having embodied thereon at least one program to cause at least one processor to implement the content provider unit of claim 16.

39 – 43. (Cancelled)

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44. (Currently Amended) A data broadcast system for use with a broadcast system operable to carry digital packets to multiple recipients simultaneously, the data broadcast system comprising:

at least one content provider unit to generate a-specifications of digital content and an insertion instructionschedule for inserting by which the digital content is to be inserted into a broadcast signal, wherein the digital content pertains to data broadcasting; and

a content liaison unit to allocate a bandwidth profile to each of the at least one content provider unit, communicate with the content provider unit over a communications network, to receive the specifications of digital content and the insertion instructionschedule from the each of the at least one content provider unit over the communications network, and to insert the digital content into the broadcast signal according to the insertion instructions based on the bandwidth profile allocated to each of the at least one content provider unitschedule,

wherein the bandwidth profiles are communicated from the content liaison unit to the at least one content provider unit over a communication network, and the specifications of digital content and the insertion instructions are communicated from the at least one content provider unit to the content liaison unit over the communication network, and

wherein the insertion instructions generated by each content provider unit completely determines a time at which each digital content item referenced in the corresponding specifications of digital content is inserted into the broadcast signal, independently of the insertion instructions generated by any other content provider unit.

45. (Previously Presented) The data broadcast system of claim 44, wherein the broadcast signal into which the digital content is inserted contains therein video and/or audio program content.

46. (Currently Amended) The data broadcast system of claim 44, wherein prior to the allocation, the at least one content provider unit and the content liaison unit negotiate with each other over the communications network regarding the allocation of the bandwidth profile to allocate a bandwidth for the digital content specified by the content provider unit.

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47. (Previously Presented) The data broadcast system of claim 44, further comprising:
at least one receiver device to receive the broadcast signal including the digital content
and to extract data from the received broadcast signal.

48-50. (Cancelled)

51. (New) The data broadcast system of claim 1, wherein the content liaison unit further
includes a bandwidth management unit configured to allocate the bandwidth profile to each of
the at least one content provider unit.